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Improvements in or relating to a dispenser

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Fig. 1.

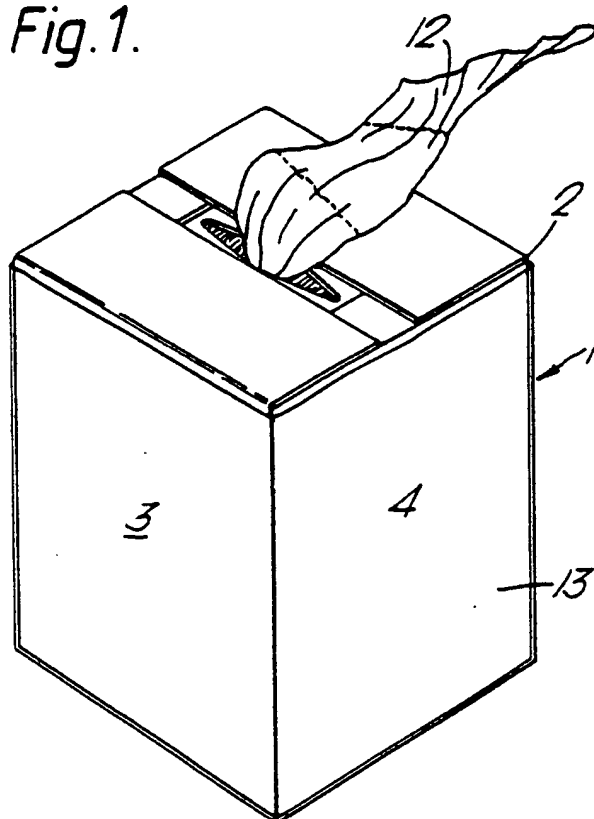


Fig. 3.

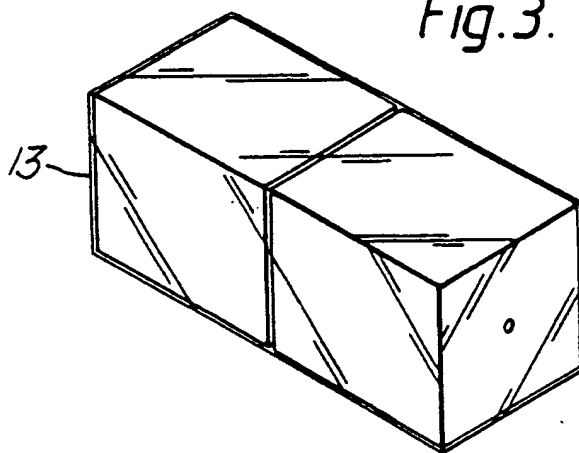
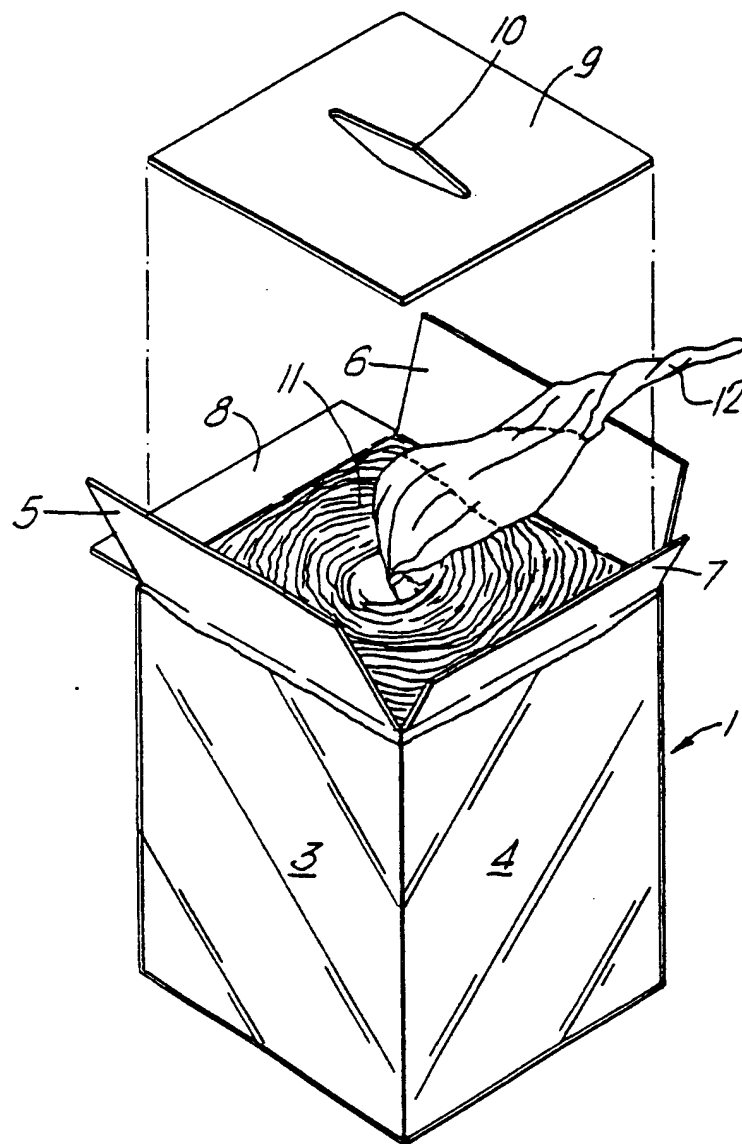
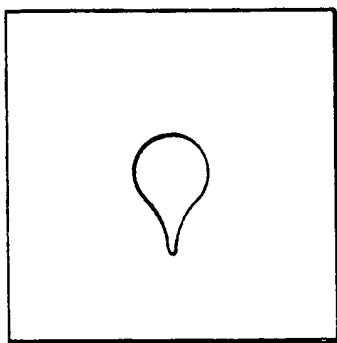
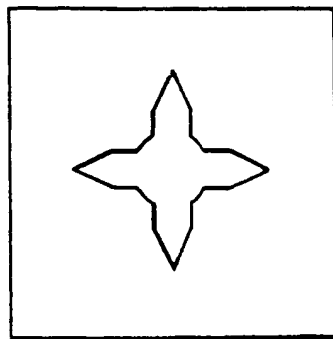
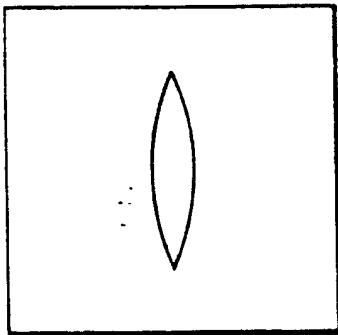
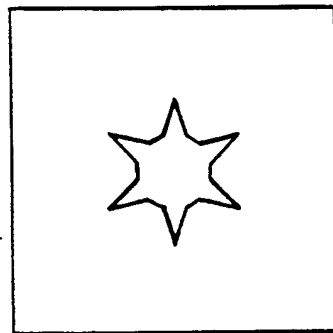


Fig.2.



*Fig.4A.**Fig.4B.**Fig.4C.**Fig.4D.*

"Improvements in or relating to a dispenser"

THE PRESENT INVENTION relates to a dispenser, and more particularly to a dispenser for dispensing lengths of an elongate web of material, such as porous paper or the like which may, if desired, be perforated at regular intervals along its length.

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Porous absorbent paper is utilised for many purposes, such as hand towels, or for cleaning dirty - such as oily or greasy - hands, or for cleaning machinery, or objects, or for mopping up spillages etc., especially in a factory environment. It is usual for such porous paper to be provided in the form of a long web, which may conveniently be in the form of a roll, and the porous paper is then dispensed from a dispensing device which contains the roll. The dispensing device may be provided with a blade or similar cutting device adjacent the point at which the web leaves the dispensing device, so that the web can be cut to desired lengths.

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The present invention seeks to provide a new dispenser for webs of the type generally described above.

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According to this invention there is provided a dispenser for dispensing an elongate web, said dispenser comprising a carton containing the elongate web, there being a sheet connected to flaps forming the closure of the carton and defining an aperture through which a free end portion of the elongate web passes, said aperture having a relatively broad portion through which the web may be freely withdrawn from the dispenser, and a constricted portion which will grip the web to enable a portion of the web that has passed through the aperture to be separated from the remainder of the web.

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The aperture may be of parallelogram or diamond shape or may be pear shaped, star shaped, or cruciform with tapered arms.

5            Preferably the shape of the aperture is such that the web will be gripped sufficiently firmly in the constricted portion to enable the part of the web that has been extracted from the dispenser from the remainder of the web within the dispenser, and to prevent the free end of the remainder of the web within the dispenser, and to prevent the free end of the web from,  
10           falling back into the the dispenser, the gripping pressure being sufficiently low to enable the grip to be released by pulling the free end of the web vertically upwardly.

15           Conveniently the web is in the form of a roll, the free end of the web being taken from the centre of the roll. Alternatively the web may be in the form of a pre-folded or layered endless web. The web may be porous and preferably may be of 2-ply cellulose crepe, although single ply web may be used. Also the web may be perforated at locations equi-spaced along the length of the web.

20           The dispenser may be packaged together with a similar dispenser, the dispensers being located with the said apertures thereof abutting one another, the dispensers being connected together by an external wrapping of plastics material.

25           Conveniently, said plastics material comprises a shrink-wrapping material.

30           In order that the invention may be more readily understood, and so that further features thereof may be appreciated, the invention will now be described by way of example with reference to the accompanying drawings in which:

35           FIGURE 1 is a perspective view of a dispenser in accordance with the invention;

FIGURE 2 is an exploded view of the dispenser shown in Figure 1;

FIGURE 3 is a perspective view of two dispensers according to Figure 1 packaged together for transportation, and

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FIGURES 4A to 4D are plan views of cardboard sheets having differently shaped apertures therein for use in different embodiments of the invention.

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A dispenser in accordance with the present invention 1 comprises a generally rectangular cardboard carton 2 having four vertical side walls, only two of which 3, 4 are visible in Figures 1 and 2. Pivotaly connected to the uppermost edge of each side wall is a respective flap, there being a relatively large flap 5 on the side wall 3, and a corresponding large flap 6 on the side wall opposed to the side wall 3, and there being a relatively small flap 7 on the side wall which is opposed to the side wall 4. The flaps co-operate to form a closure for the carton as can be seen in Figure 1, and as will be described hereinafter.

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20 The presently described dispenser in accordance with the invention also includes a further sheet of cardboard 9 in which there is formed a central aperture 10 which, in this embodiment, is of parallelogram or of generally "diamond" shape. The aperture 10 thus has a relatively broad central region and two narrower converging terminal regions. The function of this apertured sheet will become apparent hereinafter.

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The carton 2 contains a roll of web 11 which is porous and which is perforated at regular intervals. The preferred web is a multi-purpose industrial wiper which will absorb water, all common solvents, and will collect and hold dusts and powders. The preferred web is formed from two-ply cellulose wet, semi or dry crepe tissue, although a multi- or a single-ply web may be used. The weight of the web is preferably between 10 and 100 gms per square metre. The roll of web has a large centre opening, and the web is dispensed from this central opening thus ensuring that the web is not unduly twisted as it is dispensed.

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In the manufacture of the presently described dispenser the web 11 is introduced, in the form of a roll, into the carton 2 and one end 12 of the web 11, taken from the centre opening of the roll, is passed through the aperture 10 in the cardboard sheet 9. The cardboard sheet 9 is then rested on the top of the roll 11 of the web, and the two small flaps 7 and 8 are folded inwardly and are adhesively secured to the top of the cardboard sheet 9. Subsequently the two larger flaps 5 and 6 are folded inwardly and are adhered to the exposed upper surfaces of the relatively small flaps 7 and 8 and also the part of the still exposed surface of the sheet 9. The dispenser is then fully assembled.

It will be appreciated that the web can readily be withdrawn from the dispenser if the web is withdrawn through the central broad portion of the diamond shaped aperture 10. However, when a sufficient quantity of web has been withdrawn from the carton the web can be moved to one of the narrow or constricted converging terminal regions of the aperture, and the web will then be gripped by the side walls of the aperture, enabling the extracted portion of the web to be separated from the remaining portion of the web that is still within the container, the web tearing at one of the perforations. The end 12 of the web still connected to the roll of web 11 is retained in the converging region of the aperture, preventing the end 12 from falling back into the carton 2. The grip on the free end 12 of the web provided by the converging region of the aperture is such that the grip can be released by pulling the exposed free end of the web vertically upwardly, thus returning the web to the central broad portion of the aperture.

Turning now to Figure 3 it can be seen that two dispensers of the type described above may be packaged together, with the closures constituted by the flaps 5, 6, 7 and 8 abutting one another, the two dispensers being shrink-wrapped with a plastics material. It is envisaged that the dispensers, in this form, will be readily transportable, and may be dimensioned to be received conveniently on a pallet. When the dispensers are to be utilised, the plastics material forming the shrink wrapping can be cut neatly at the junction between the two dispensers, the cardboard cartons which constitute the dispensers remaining covered with the plastics material that constituted the shrink wrapping which will serve to protect the cardboard cartons.



It is to be appreciated that this feature is of some commercial importance, since industrial concerns that utilise such webs are used to being provided with free permanent dispensers in which the webs can be located. However, in the above described arrangement there is no need to  
5 provide such a permanent dispenser, since the carton acts as a dispenser and the shrink wrapping material protects the carton from any contamination on the floor in the region where the dispenser is located.

Whilst the invention has been described with reference to one  
10 preferred embodiment it is to be appreciated that many modifications or alterations may be made. In particular, whilst the invention has been described with reference to an embodiment in which the aperture through which the web is dispensed is of parallelogram or "diamond" shape, the aperture may be of any convenient shape, provided that the aperture defines  
15 a relatively broad portion through which the web may be freely withdrawn from the dispenser, and a narrow constricted portion which is of such a size that the web will be engaged by the side walls of the aperture to enable a portion of the web to be separated from the remainder of the web.

20 Figures 4A to 4D show various cardboard sheets that can be used instead of the sheet 9 in different embodiments of the invention. The sheet 9A of Figure 4A has a pear shaped hole 10A, and the sheet 9B of Figure 4B has a cruciform hole 10B, the arms of the cross having tapering terminal regions. The sheet 9C of Figure 4C has a generally elliptical aperture 10C,  
25 the two sides of the ellipse being defined by two arcs. The sheet 9D of Figure 4D has a generally star shaped aperture 10D, each arm of the star tapering to a point. Each of the illustrated apertures thus has a relatively broad central portion through which the web may be freely withdrawn from the dispenser, and at least one tapering constricted portion, the side edges  
30 of which will grip the web to enable a portion of the web that has passed through the aperture to be separated from the remainder of the web.

Also it is to be appreciated that whilst the invention has been described with reference to an embodiment in which the web within the  
35 dispenser is in the form of a roll, the web may alternatively be in the form of a pre-folded or layered endless web.

CLAIMS:

1. A dispenser for dispensing an elongate web, said dispenser comprising a carton containing the elongate web, there being a sheet connected to flaps forming the closure of the carton and defining an aperture through which a free end portion of the elongate web passes, said aperture having a relatively broad portion through which the web may be freely withdrawn from the dispenser, and a constricted portion which will grip the web to enable a portion of the web that has passed through the aperture to be separated from the remainder of the web.
2. A dispenser according to claim 1 wherein the aperture is of parallelogram or diamond configuration.
3. A dispenser according to claim 1, wherein the aperture is pear shaped.
4. A dispenser according to claims 1, wherein the aperture is star shaped.
5. A dispenser according to claim 1, wherein the aperture is cruciform with tapering arms.
6. A dispenser according to any one of the preceding claims wherein the shape of the aperture is such that the web will be gripped sufficiently firmly in the constricted portion to enable the part of the web that has been extracted from the dispenser from the remainder of the web within the dispenser, and to prevent the free end of the web from falling back into the dispenser, the gripping pressure being sufficiently low to enable the grip to be released by pulling the free end of the web vertically upwardly.
7. A dispenser according to any one of the preceding claims wherein the web is in the form of a roll, the free end of the web being taken from the centre of the roll.
8. A dispenser according to any one of claims 1 to 6 wherein the web is in the form of a pre-folded or layered endless web.

9. A dispenser according to any one of the preceding claims wherein the web is porous.

10. A dispenser according to claim 9, wherein the web is 2-ply cellulose crepe.

11. A dispenser according to claim 9 wherein the web is single ply cellulose crepe.

10 12. A dispenser according to any one of the preceding claims wherein the web is perforated at locations equi-spaced along the length of the web.

13. A dispenser according to any one of the preceding claims, together with a similar dispenser, the dispensers being located with the said apertures thereof abutting one another, the dispensers being connected together by an external wrapping of plastics material.

14. A dispenser according to claim 13, wherein said plastics material comprises a shrink-wrapping material.

20 15. A dispenser substantially as herein described with reference to and as shown in Figures 1 and 2 of the accompanying drawings.

25 16. A dispenser substantially as herein described with reference to and as shown in Figures 1 and 2, as modified by Figure 4A.

17. A dispenser substantially as herein described with reference to and as shown in Figures 1 and 2, as modified by Figure 4B of the accompanying drawings.

30 18. A dispenser substantially as herein described with reference to and as shown in Figures 1 and 2, as modified by Figure 4C of the accompanying drawings.

35 19. A dispenser substantially as herein described with reference to and as shown in Figures 1 and 2, as modified by Figure 4D of the accompanying drawings.

20. Two dispensers substantially described with reference to and as shown in Figure 3 of the accompanying drawings.
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